

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for ~~synthesis of polypeptides or polynucleotides in vitro~~ in vitro transcription of mRNA and/or translation of polypeptides, the method comprising:

synthesizing ~~polypeptides~~ said mRNA and/or polynucleotides ~~polypeptides~~ in a transcription and/or translation reaction mix substantially free of polyethylene glycol, comprising:

an extract from bacterial cells comprising membrane vesicles containing respiratory chain components; components of polypeptide and/or mRNA synthesis machinery; a template for transcription of said mRNA and/or translation of said polypeptide; monomers for synthesis of said mRNA and/or polypeptides; and co-factors, enzymes and other reagents necessary for said transcription and/or translation;

magnesium at a concentration of from about 5 mM to about 20 mM;

~~the absence of an exogenous high energy phosphate source;~~

wherein oxidative phosphorylation, which is sensitive to electron transport chain inhibitors, is activated in said reaction mix.

2-3. (canceled)

4. (currently amended) The method of Claim 1, wherein transcription of mRNA and/or translation of polypeptides ~~synthesis of said polypeptides or polynucleotides~~ is at least two fold higher than synthesis in the absence of said oxidative phosphorylation.

5. (currently amended) The method according to Claim 1, wherein transcription of mRNA and/or translation of polypeptides ~~synthesis of said polypeptides or polynucleotides~~ is at least three fold higher than synthesis in the absence of said oxidative phosphorylation.

6. (currently amended) The method of Claim 1 wherein said transcription of mRNA and/or translation of polypeptides ~~synthesis of polypeptides or polynucleotides~~ is performed as a batch reaction.

7. (currently amended) The method of Claim 1, wherein said transcription of mRNA and/or translation of polypeptides ~~synthesis of polypeptides or polynucleotides~~ is performed as a continuous reaction.

8-12. (canceled)

13. (currently amended) A method for ~~synthesis of polypeptides or polynucleotides~~ *in vitro* in vitro transcription of mRNA and/or translation of polypeptides, the method comprising:

synthesizing ~~said polypeptides~~ said mRNA and/or polynucleotides ~~polypeptides~~ in a transcription and/or translation reaction mix substantially free of polyethylene glycol, comprising:

an extract from bacterial cells ~~comprising components of polypeptide synthesis machinery, wherein such components are capable of expressing a nucleic acid encoding a desired polypeptide~~ grown in glucose and phosphate containing medium comprising components of polypeptide and/or mRNA synthesis machinery; a template for transcription of said mRNA and/or translation of said polypeptide; monomers for synthesis of said mRNA and/or polypeptides; and co-factors, enzymes and other reagents necessary for said transcription and/or translation;

magnesium at a concentration of from about 5 mM to about 20 mM;

~~the absence of an exogenous high energy phosphate source;~~

at least one of spermine or spermidine at a concentration of at least about 1 mM;

wherein oxidative phosphorylation, which is sensitive to electron transport chain inhibitors, is activated in said reaction mix.

14- 22 (canceled)

23. (previously presented) The method of Claim 13 wherein said synthesis is performed as a batch reaction.

24. (previously presented) The method of Claim 13, wherein said synthesis of polypeptides is performed as a continuous reaction.

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25. (currently amended) The method of ~~Claim 13~~, Claim 1, wherein said bacterial cells are *E. coli* ~~are grown in glucose and phosphate containing medium.~~

26-29. (canceled)